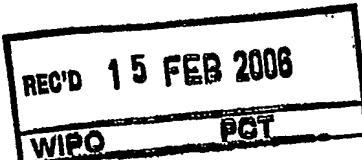


PATENT COOPERATION TREATY

PCT
INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference P06452PC00 | FOR FURTHER ACTION See Form PCT/IPEA/416 | |
| International application No. PCT/SE2003/001647 | International filing date (<i>day/month/year</i>) 24-10-2003 | Priority date (<i>day/month/year</i>) |
| International Patent Classification (IPC) or national classification and IPC See Supplemental Box | | |
| Applicant Telefonaktiebolaget LM Ericsson (publ) et al | | |

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|---|--------------|---|-----------|---------------------|--------------------------|------------|----------|--------------------------|-------------|--|--------------------------|------------|----------------------------|-------------------------------------|-----------|---|--------------------------|------------|-------------------------|--------------------------|-------------|--|-------------------------------------|--------------|---|
| <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>2</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table> <tbody> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </tbody> </table> | | <input checked="" type="checkbox"/> | Box No. I | Basis of the report | <input type="checkbox"/> | Box No. II | Priority | <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | <input type="checkbox"/> | Box No. IV | Lack of unity of invention | <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | <input type="checkbox"/> | Box No. VI | Certain documents cited | <input type="checkbox"/> | Box No. VII | Certain defects in the international application | <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. II | Priority | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VI | Certain documents cited | | | | | | | | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application | | | | | | | | | | | | | | | | | | | | | | | |

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|---|---|
| Date of submission of the demand 04-05-2005 | Date of completion of this report 23-01-2006 |
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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/SE2003/001647

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Cover sheet

INTERNATIONAL PATENT CLASSIFICATION (IPC) :

H04H 9/00 (2006.01)

H04L 12/26 (2006.01)

H04L 12/24 (2006.01)

H04Q 7/34 (2006.01)



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2003/001647

Box No. I Basis of the report

1. With regard to the language, this report is based on:

the international application in the language in which it was filed
 a translation of the international application into _____, which is the language of a translation furnished for the purposes of:
 international search (Rules 12.3(a) and 23.1(b))
 publication of the international application (Rule 12.4(a))
 international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished

the description:

pages 1 - 7 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

the claims:

pages _____ as originally filed/furnished

pages* _____ as amended (together with any statement) under Article 19

pages* 1 - 2 received by this Authority on 05 - 12 - 2005

pages* _____ received by this Authority on _____

the drawings:

pages 1 - 3 as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, Nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to the sequence listing (*specify*): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages _____
 the claims, Nos. _____
 the drawings, sheets/figs _____
 the sequence listing (*specify*): _____
 any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/SE2003/001647

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|------------|-----|
| Novelty (N) | Claims | <u>1-7</u> | YES |
| | Claims | _____ | NO |
| Inventive step (IS) | Claims | _____ | YES |
| | Claims | <u>1-7</u> | NO |
| Industrial applicability (IA) | Claims | <u>1-7</u> | YES |
| | Claims | _____ | NO |

2. Citations and explanations (Rule 70.7)

Claimed invention relates to a method and a monitoring device for monitoring the use of different multicast services.

Reference is made to the following documents:

D1 US 6434622 B1

D1, which is the document which best represents the state of the art, describes a multicasting method and apparatus. Control servers, each responsible for managing a cluster of media servers, are keeping track of which users are listening to which channels. The control server also has the capability of determining whether a user stop listening to a certain channel. Consequently, information about forwarding of information is being retrieved, stored and processed on a regular basis. The functionality described may be implemented as a software implementation.

Although the method described in D1 refers to the use of monitoring equipment which is integrated with the multicast system, the implementation described in D1 is not restricted to an integrated system. Instead, the method as described in D1 could also be integrated as a separate monitoring functionality.

It is not clearly defined how the claimed invention differs from the monitoring functionality in D1 so that a direct retrieving of information is obtained. It is also unclear how monitoring of the use of multicasting services in more than one multicasting system is achieved from utilising this specific feature. Considering this, direct retrieving of information from network devices, as such, may be achieved also on the basis of what is commonly known to the person skilled in the art, for example from D1.

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

In this matter the application fails to define a way in which information is derived directly from network devices which distinct considerably from what is already known from D1.

In addition, D1 fails to explicitly mention that each user is connected to a dedicated port. It is, however, commonly known that standard PCs connected to a network for reception of multicast information are connected to the network via a specific, identifiable port. Since the control servers of the network described in D1 can keep track of which user is listening to which channel, it should also be possible to indirectly retrieve the frequency of connections passing a certain port without the requirement of any inventive skill, especially since this procedure only is described in general terms in the claims.

For the reason set forth above, the invention described in the dependent claims 1, 4, 5 and 6 is novel and industrially applicable, but fails to involve an inventive step.

For the same reason also dependent claim 7 fails to involve an inventive step.

Claims 2 and 9 only suggest a commonly known choice of access network which when used in an implementation such as the one suggested in D1 fail to involve an inventive step.

In D1 different paths are being used for forwarding control packets and user packets. Therefore, also claim 3 fails to involve an inventive step.

Although not explicitly mentioned, the utilisation of a timer which is suggested in claim 8 is commonly known for these kinds of implementations. No surprising technical effect is achieved from using a timer as is suggested in claim 8. For this reason also claim 8 fails to involve an inventive step.

To sum up, the invention as claimed in the amended claims 1-7 is novel and industrially applicable, but fail to involve an inventive step.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE2003/001647

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 1 and 4 fail to specify the characteristical features which allow a monitoring device not to be integrated as a part in the multicast system to be monitored. To integrate a device having the specific purpose to measure or monitor, as a unit separated from a distributed network only refers to a commonly known alternative way of implementation of which the person skilled in the art could choose. The use of such a disclaimer presented in this particular context requires further details as to how a specific problem is overcome by way of realising the alternative implementation .

05-12-2005

CLAIMS

1. A method for monitoring the use of different multicast services, which are provided by at least one content server (102) as one multicast group for each service in a multicast capable access network (106) to which users (103) of the multicast services are connected through network devices (104), the network devices (104) comprising several ports and all the users (103) being connected to different ports, **characterised in that** a monitoring device (101) that is not integrated as a part in the multicast system, periodically retrieves, directly from each network device (104), information about which multicast groups being forwarded through which ports in the network devices (104), stores the information retrieved, and potentially evaluates the information to achieve a measure of the use of the different multicast services.
2. A method according to claim 1, wherein the access network is an Ethernet access network (106).
3. A method according to claim 1 or 2, **characterised by** using different paths in the network for the retrieving of information from the network devices (104) than the multicast services use.
4. A monitoring device connected to a multicast capable access network (106) for monitoring the use of different multicast services, which are provided by at least one content server (102) as one multicast group for each service in the access network (106) to which users (103) of the multicast services are connected through network devices (104), the network devices (104) comprising several ports and all the users (103) being connected to different ports, **characterised in that** it is not integrated as a part in the multicast system and comprises:

- retrieving means (301) adapted to periodically retrieve, directly from the network devices (104), information about which multicast groups being forwarded through which ports in the network devices (104); and
- storing means (305) connected to the retrieving means (301) and adapted to store the information.

5. A monitoring device according to claim 4, **characterised in that** it further comprises an evaluating means (307) connected to said storing means (305)

adapted to evaluate said information to achieve a measure of the use of the different multicast services.

6. A monitoring device according to claim 4 or 5, **characterised in that** it comprises a timer (303) connected to the retrieving means (301) adapted to periodically tell the retrieving means (301) that it is time to retrieve the information from the network devices (104).

7. A monitoring device according to any one of the claims 4-6, **characterised in that** it is adapted to be connected to an Ethernet access network (106).